

THIRTY-FOUR YEARS OF CHEMISTRY OUTREACH AND CHEMICAL EDUCATION AT THE UNIVERSITY OF SOUTH DAKOTA

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ABSTRACT

Members of the Chemistry Department were involved in chemical education for many years at the University of South Dakota following the pioneering work of the late Dr. Charles Estee at USD. Dr Estee was a member of the second class of South Dakota Academy of Science Fellows. Chemical education encompasses a wide variety of areas from basic educational research, curriculum development and assessment efforts, undergraduate research, outreach efforts to K-12 students as well as the general public. During my 34 years of leadership in the department's chemical education outreach activities, we were involved various aspects of chemical education with the exception of basic educational research. Outreach activities included our "Not So Late Night Chemistry with USD" and our Master's of Natural Science program for high school chemistry and physics teachers. Assessment was primarily focused on chemistry examination preparation through the American Chemical Society Exam Institute. Finally, we found that demonstrations are an effective means for raising enthusiasm, interest and understanding in the undergraduate chemistry lecture as well as outreach activities. Some of these demonstrations included burning money, ethanol cannon and chemiluminescence. Curriculum development included introducing dynamic electrochemistry into the physical chemistry laboratory. Our efforts during the 34 years will be discussed with respect to the title of the 2021 Estee Lecture, "*Chemical Education: To Infinity...And Beyond.*"